

Zentralwerkstatt und
Ersatzteildepot
für ORION-Produkte


Schwalbe
Service & Versand GmbH

Postfach 10 10 26
63264 Dreieich
Max-Planck-Str. 20
63303 Dreieich



ORIO-00357

Ersatzteil-Bestellung

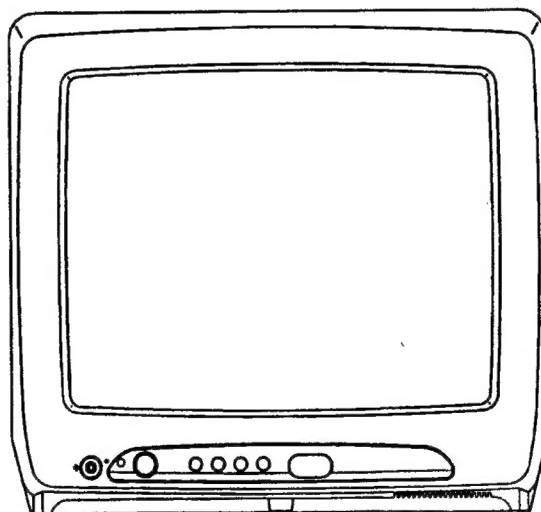
Tel.: (06103) 39 99-95 Fax.: (06103) 39 99-79

SERVICE MANUAL

ORION

TV 3786TX/SI TV 3787TX/SI

COLOR TELEVISION RECEIVER



ORIGINAL
CHASSIS CODE A

Best. Nr. SM3786

Design and specifications are subject to change without notice.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a \triangle mark, the designated parts must be used.

4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

6. AVOID AN X-RAY

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.

Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.

Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

7. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the

serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

(INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal [Note 2] should be more than 1M ohm by using the 500V insulation resistance meter [Note 1].
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

[Note 1]

If you have not the 500V insulation resistance meter, use a Tester.

[Note 2]

External exposure metal: Antenna terminal
Earphone jack

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the CHASSIS CODE.)

1. MODEL NUMBER and CHASSIS CODE
You can find it in the back of your unit.
2. PART NO. and DESCRIPTION
You can find it in your SERVICE MANUAL.

IMPORTANT

Inferior silicon grease can damage IC's and transistors.

When replacing an IC's or transistors, use only specified silicon grease (YG6260M).

Remove all old silicon before applying new silicon.

CONTENTS

SERVICING NOTICES ON CHECKING	A1-1
HOW TO ORDER PARTS	A1-1
IMPORTANT	A1-1
CONTENTS	A2-1
GENERAL SPECIFICATIONS	A3-1~A3-4
DISASSEMBLY INSTRUCTIONS	B-1
SERVICE MODE LIST	C-1
CONFIRMATION OF HOURS USED	C-1
WHEN REPLACING EEPROM (MEMORY) IC	C-2
ELECTRICAL ADJUSTMENTS	D1-1~D2-1
MAJOR COMPONENTS LOCATION GUIDE	D3-1
BLOCK DIAGRAM	E-1, E-2
PRINTED CIRCUIT BOARDS	
MAIN/CRT	F-1~F-4
SCHEMATIC DIAGRAMS	
MICON/T.TEXT/TUNER	G-1, G-2
CHROMA/SIF/VIF	G-3, G-4
POWER	G-5, G-6
DEFLECTION/CRT	G-7, G-8
SOUND AMP	G-9, G-10
WAVEFORMS	H-1, H-2
MECHANICAL EXPLODED VIEW	I-1
MECHANICAL REPLACEMENT PARTS LIST	J1-1
ELECTRICAL REPLACEMENT PARTS LIST	J2-1, J2-2

GENERAL SPECIFICATIONS

G-1	TV System	CRT		CRT Size / Visual Size	14 inch / 335.4mmV	
				CRT Type	Normal	
				Deflection	90 degree	
				Magnetic Field BV/BH	+0.45G/0.18G	
		Color System		PAL		
		Speaker		1Speaker		
				Position		Bottom
				Size		3 inch
				Impedance		8 ohm
		Sound Output		MAX	1.0 W	
				10%(Typical)	0.8 W	
				PAL60Hz		Yes
G-2	Tuning System	Broadcasting System			CCIR System B/G	
		Tuner and Receive CH	System	1Tuner		
			Destination	W/ Hyper		
			Tuning System	F-Synth		
			Input Impedance	VHF/UHF 75 ohm		
				CH Coverage	E2 - E4, X - Z+2, S1 - S10, E5 - E12, S11 - S41, E21 - E69	
		Intermediate	Picture(FP)	38.90MHz		
		Frequency	Sound(FS)	33.4MHz		
			FP-FS	5.5MHz		
		Preset CH		80		
		Stereo/Dual TV Sound		No		
		Tuner Sound Muting		Yes		
G-3	Power	Power Source	AC	230V AC 50Hz		
			DC	-		
		Power Consumption		at AC		
				44 W at AC 230 V 50 Hz		
				10 W at AC 230 V 50 Hz		
				-- kWh/Year		
G-4	Regulation	Protector		Power Fuse	Yes	
				Safety	CE	
				Radiation	CE	
				X-Radiation	PTB	
G-5	Temperature	Operation		+5°C ~ +40°C		
		Storage		-20°C ~ +60°C		
G-6	Operating Humidity			Less then 80% RH		
G-7	On Screen Display	Menu		Yes		
		Menu Type		Character		
		Picture		Yes		
				Contrast	Yes	
				Brightness	Yes	
				Color	Yes	
				Tint	No	
				Sharpness	Yes	
		Audio		No		
				Bass	No	
				Treble	No	
				Balance	No	
				BBE On/Off	No	
				Stable Sound On/Off	No	
		CH Tuning		Yes		
				Matual	Yes	
				Auto	Yes	
				CH Allocation	Yes	
		Language		Yes		
		Clock Set		No		
		On/Off Timer Set		No		
		Pin Code Registration		No		
		Nicam Auto Off		No		
		Colour System		No		
		Sound System		No		

GENERAL SPECIFICATIONS

		AV2 Output Source	No
		Control Level	Yes
		Volume	Yes
		Brightness	Yes
		Contrast	Yes
		Colour	Yes
		Tint (NTSC Only)	No
		Sharpness	Yes
		Tuning	Yes
		Bass	No
		Treble	No
		Balance	No
		Back Light	No
		Nicam ST	No
		Tone 1/2	No
		Pin Code	No
		AV	Yes
		Skip	Yes
		Channel	Yes
		Hotel Lock	No
		Sleep Timer	Yes
		Sound Mute	Yes
G-8	OSD Language		English French Spanish German Italian German
		OSD Language Setting	German
G-9	Clock and Timer	Sleep Timer Max Time Step	120 Min 10 Min
		On/Off Timer Program(On Tim / Off Tim)	No
		Wake Up Timer	No
		Timer Back-up (at Power Off Mode) more than	-- Min Sec
G-10	Remote Control	Unit	RC-DG
		Glow in Dark Remocon	No
		Format	NEC
		Custom Code	80-63 h
		Power Source Voltage(D.C) UM size x pcs	3V UM-4 x 2 pcs
		Total Keys	31 Keys
		Keys Power(Stand By)	Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0 / AV	Yes
		CH Up	No
		CH Down	No
		Volume Up / +	Yes
		Volume Down / -	Yes
		Quick View	No
		Sleep	Yes
		Info(CH Call)	Yes
		Normal	No
		Menu	Yes
		Enter	Yes
		Mute	Yes
		Fine Tuning +	No
		Fine Tuning -	No
		Tone 1/2	No
		TTEXT Keys TEXT / MIX / TV	Yes

GENERAL SPECIFICATIONS

		CH Up / Page Up		Yes
		CH Down / Page Down		Yes
		Red		Yes
		Green		Yes
		Yellow / Fine Tuning -		Yes
		Cyan / Fine Tuning +		Yes
		F/T/B(Expand) / Normal		Yes
		Reveal / Skip		Yes
		Display Cancel		Yes
		Reset		Yes
		Reset / Tone 1/2		No
		Hold / Status		Yes
		Sub Page / Quick View		Yes
G-11	Features	Auto Degauss		Yes
		Auto Shut Off		Yes
		Canal+		No
		CATV		Yes
		Anti-theft		No
		Memory(Last CH)		Yes
		Memory(Last Volume)		Yes
		BBE		No
		Auto Search		Yes
		CH Allocation		Yes
		Channel Lock		No
		Just Clock Function		No
		Game Position		No
		CH Label		No
		VM Circuit		No
		Full OSD		No
		Unitext		Yes
		Fastext		No
		Top Text		No
		Premiere		No
		Comb Filter		No
				Lines
		Auto CH Memory		Yes
		Auto Set Up		No
		Stable Sound		No
		FBT Leak Test Protect		No
		Hotel Lock		No
G-12	Accessories	Owner's Manual		German
		Language w/Guarantee Card		Yes
		Remote Control Unit		Yes
		Rod Antenna		No
		Poles		-
		Terminal		-
		Loop Antenna		No
		Terminal		-
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		AC Plug Adapter		No
		Quick Set-up Sheet		No
		Battery		Yes
		UM size x pcs		UM-4 x 2 pcs
		OEM Brand		No
		AC Cord		No

GENERAL SPECIFICATIONS

				AV Cord (2Pin-1Pin)	No
				Registration Card	No
				PTB Sheet	No
				300 ohm to 75 ohm Antenna Adapter	No
G-13	Interface	Switch	Front	Power	No
				System Select	No
				Main Power SW	Yes
				Sub Power	No
				Channel Up	Yes
				Channel Down	Yes
				Volume Up	Yes
				Volume Down	Yes
		Rear	AC/DC	No	
			TV/CATV Selector	No	
			Degauss	No	
			Main Power SW	No	
		Indicator	Power	No	
			Stand-by	Yes	
			On Timer	No	
		Terminals	Front	Video Input	No
				Audio Input	No
				Other Terminal	Ear Phone
			Rear	Video Input(Rear1)	No
				Video Input(Rear2)	No
				Audio Input(Rear1)	No
				Audio Input(Rear2)	No
				Video Output	No
				Audio Output	No
				Euro Scart(21Pin)	Yes (x1)
				Component Input	No
				Diversity	No
				Ext Speaker	No
				DC Jack 12V(Center +)	No
				VHF/UHF Antenna Input	Din Type
				AC Outlet	No
G-14	Set Size	Approx. W x D x H (mm)			362 x 360 x 320.5
G-15	Weight	Net (Approx.)			9.5 kg (--- lbs)
		Gross (Approx.)			11.5kg (---lbs)
G-16	Carton	Master Carton			No
		Content			---- Sets
		Material			-- /--
		Dimensions W x D x H(mm)			-- x -- x --
		Description of Origin			No
		Gift Box			Yes
		Material			Double/White
		Dimensions W x D x H(mm)			440 x 408 x 380
		Design			As per Buyer's
		Description of Origin			No
		Drop Test			Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
		Height (cm)			62
Container Stuffing			866 Sets/40' container		
G-17	Cabinet Material	Cabinet Front			PS 94HB
		Cabinet Rear			PS 94HB

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

- * After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
- * Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

REMOVAL

1. Follow the steps as follows to discharge the Anode Cap. (Refer to Fig. 3-1.)

Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground. While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.

A cracking noise will be heard as the voltage is discharged.

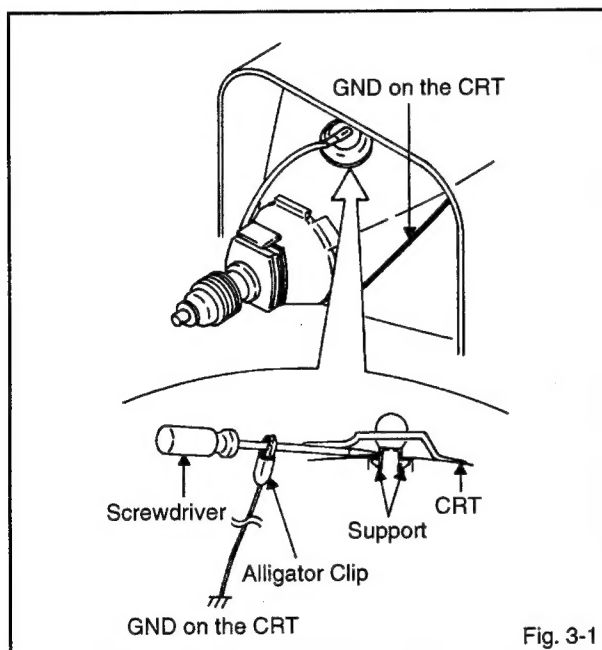


Fig. 3-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. (Refer to Fig. 3-2.)

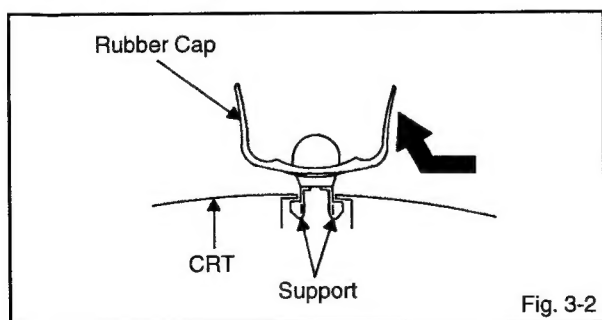


Fig. 3-2

3. After one side is removed, pull in the opposite direction to remove the other.

NOTE

Take care not to damage the Rubber Cap.

INSTALLATION

1. Clean the spot where the cap was located with a small amount of alcohol. (Refer to Fig. 3-3.)

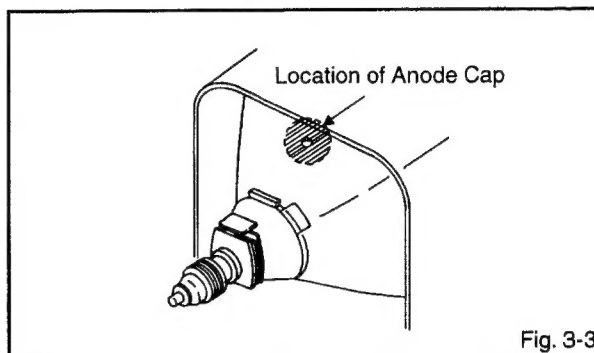


Fig. 3-3

NOTE

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. (Refer to Fig. 3-4.)

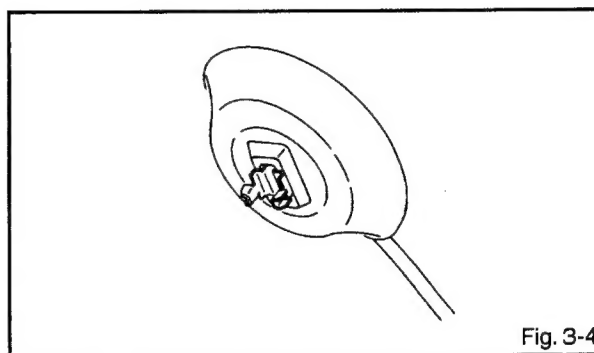


Fig. 3-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in Fig. 3-5.

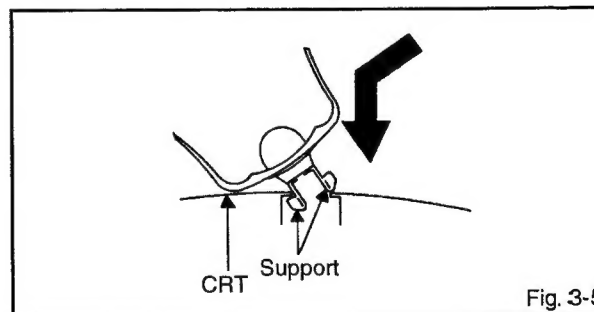


Fig. 3-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	--	00	00	00	00	59	94	41	01	41	14	8D	0B	07	0C	FF
10	00	00	08	2D	03	00	00	7E	46	10	34	08	00	44	A3	21
20	C7	2A	9F	20	D6	2E	95	08	0A	06	00	20	00	E2	18	18
30	00	50	50	50	00	00	00	03	2D	2D	2D	2D	2D	2D	2D	2D
40	7F	75	6B	66	63	60	5D	5A	57	54	51	4E	4B	48	45	42
50	3F	3D	3B	39	37	35	33	31	2F	2D	2B	29	27	25	23	21
60	1F	1E	1D	1C	1B	1A	19	18	17	16	15	14	13	12	11	10
70	0F	0E	0D	0C	0B	0A	09	08	07	06	05	04	03	03	02	02

Table 1

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button (6) on the remote control.
ADDRESS and DATA should appear as FIG. 1.
3. ADDRESS is now selected and should "blink". Using the SET + or - keys on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will "blink".
5. Again, step through the DATA using SET + or - until required DATA value has been selected.
6. Press ENTER will take you back to ADDRESS for further selected if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.
The unit will now have the correct DATA for the new MEMORY IC.

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.
To enter the Service Mode, press both set key and remote control key for more than 2 seconds.

Set Key	Remocon Key	Operations
VOL. (-) MIN	0	Reset the user setting items (PICTURE, VOLUME, LANGUAGE and NICAM AUTO/OFF) to the initial state for delivery.
VOL. (-) MIN	1	Initialization of the factory. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the clock setting, the channel setting, the POWER ON total hours, and PLAY/REC total hours.
VOL. (-) MIN	6	POWER ON total hours is displayed on the screen. Refer to the "CONFIRMATION OF HOURS USED". Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
VOL. (-) MIN	8	Writing of EEPROM initial data. NOTE: Do not use this for the normal servicing.
VOL. (-) MIN	9	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen. Total hours are displayed in 16 system of notation.

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button (6) on the remote control.
3. After the confirmation of using hours, turn off the power.

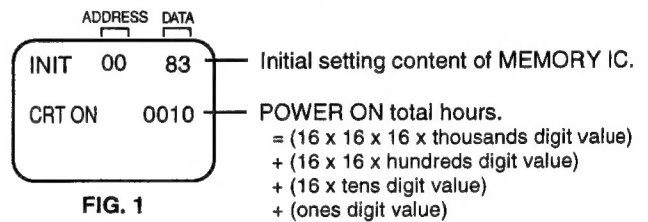


FIG. 1

ELECTRICAL ADJUSTMENTS

1. BEFORE MAKING ELECTRICAL ADJUSTMENTS

Read and perform these adjustments when repairing the circuit or replacing parts or PCB assemblies.

CAUTION

- * Use an isolation transformer when performing any service on this chassis.
 - * Before removing the anode cap, discharge electricity because it contains high voltage.
 - * When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in this original position.
- Inferior silicon grease can damage IC's and transistors.
- * When you exchange IC and Transistor for a heat sink, apply the silicon grease (YG6260M) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

Prepare the following measurement tools for electrical adjustments.

1. Oscilloscope
2. Digital Voltmeter
3. Pattern Generator

On-Screen Display Adjustment

1. In the condition of NO indication on the screen. Press the VOL. DOWN button on the set and the Channel button (9) on the remote control for more than 2 seconds to appear the adjustment mode on the screen as show in FIG. 1-1.

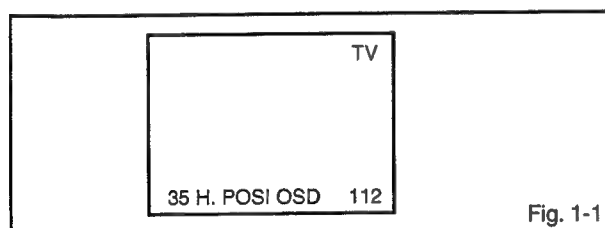


Fig. 1-1

2. Use the Channel UP/DOWN button or Channel button (0-9) on the remote control to select the options show in Fig. 1-2.
3. Press the MENU button on the remote control to end the adjustments.

NO.	FUNCTION	NO.	FUNCTION
00	CUT OFF	20	TINT
01	RF AGC	21	SHARP
02	AGC GAIN	22	CONT CENT
03	R DRIVE	23	CONT MAX
04	R CUT OFF	24	CONT MIN
05	G DRIVE	25	COLOR CENT
06	G CUT OFF	26	COLOR MAX
07	B DRIVE	27	COLOR MIN
08	H POSI 50	28	M R CUT OFF
09	V POSI 50	29	M G CUT OFF
10	V POSI 60	30	M B CUT OFF
11	V SIZE 50	31	CVBS OUT
12	V SIZE 60	32	APR THR
13	VCO COARSE	33	BELL
14	VCO FINE	34	BANDPASS
15	-	35	H POSI OSD
16	-	36	V POSI OSD
17	BRIGHT CENT	37	H POSI TXT
18	BRIGHT MAX	38	V POSI TXT
19	BRIGHT MIN	39	H POSI 60

Fig. 1-2

2. BASIC ADJUSTMENTS

2-1: AGC VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the UHF (63dB).
3. Connect the digital voltmeter between the pin 5 and pin 1 (GND) of CP101.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (01) on the remote control to select "RF AGC".
5. Press the VOL. UP/DOWN button on the remote control until the voltmeter is $1.85 \pm 0.05V$.

2-2: CUT OFF

1. Place the set with Aging Test for more than 15 minutes.
2. Activate the adjustment mode display of Fig. 1-1 and press the channel button (00) on the remote control to select "CUT OFF".
3. Adjust the Screen Volume until a dim raster is obtained.

2-3: WHITE BALANCE

NOTE: Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the white 100% signal from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (04) on the remote control to select "R CUT OFF".
5. Using the VOL. UP/DOWN button on the remote control, adjustment the R CUT OFF.
6. Press the CH. UP/DOWN button on the remote control to select the "R DRIVE", "G DRIVE", "G CUT OFF" or "B DRIVE".
7. Using the VOL. UP/DOWN button on the remote control, adjustment the R DRIVE, G DRIVE, G CUT OFF or B DRIVE.
8. Perform the above adjustments 6 and 7 until the white color is looked like a white.

2-4: FOCUS

1. Receive the monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the Focus Volume until picture is distinct.

2-5: CONSTANT VOLTAGE

1. Place the set with Aging Test for more than 15 minutes.
2. Using the remote control, set the brightness and contrast to normal position.
3. Connect the digital voltmeter to TP501.
4. Set condition is AV MODE without signal.
5. Adjust the VR501 until the digital voltmeter is $130 \pm 1V$.

ELECTRICAL ADJUSTMENTS

2-6: HORIZONTAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (08) on the remote control to select "H POSI(50)".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the monoscope pattern of NTSC.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of Fig. 1-1 and press the channel button (39) on the remote control to select "H POSI(60)".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-7: VERTICAL LINEARITY

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Adjust the VR420 until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

2-8: VERTICAL SIZE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (11) on the remote control to select "V SIZE(50)".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes $8 \pm 3\%$.
5. Receive the monoscope pattern of NTSC.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of Fig. 1-1 and press the channel button (12) on the remote control to select "V SIZE(60)".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes $8 \pm 3\%$.

2-9: HORIZONTAL POSITION OSD

1. Receive the monoscope pattern.
2. Activate the adjustment mode display of Fig. 1-1. Press the VOL. UP/DOWN button on the remote control
3. until then difference of A and B becomes minimum. (Refer to Fig. 2-1)

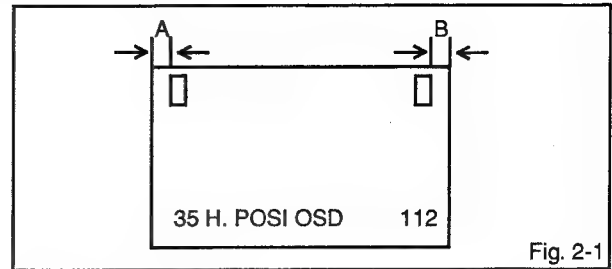


Fig. 2-1

2-10: BRIGHT CENT

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the monoscope Pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (17) on the remote control to select "BRIGHT CENT".
5. Press the VOL. UP/DOWN button on the remote control until the white 25% is starting to be visible.
6. Receive the monoscope Pattern. (Audio Video Input)
7. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 3~5.

2-11: CONT CENT

1. Activate the adjustment mode display of Fig. 1-1 and press the channel button (22) on the remote control to select "CONT CENT".
2. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "40".
3. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 1, 2.

2-12: COLOR CENT

1. Receive the monoscope Pattern. (RF Input)
2. Connect the oscilloscope to TP022.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of Fig. 1-1 and press the channel button (25) on the remote control to select "COLOR CENT".
5. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 5 scales on the screen of the oscilloscope.
6. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to $85 \pm 10\%$ for the white level. (Refer to Fig. 2-2)
7. Receive the monoscope Pattern. (Audio Video Input)
8. Press the AV button on the remote control to set to the AV mode. Then perform the above adjustments 2~6.

ELECTRICAL ADJUSTMENTS

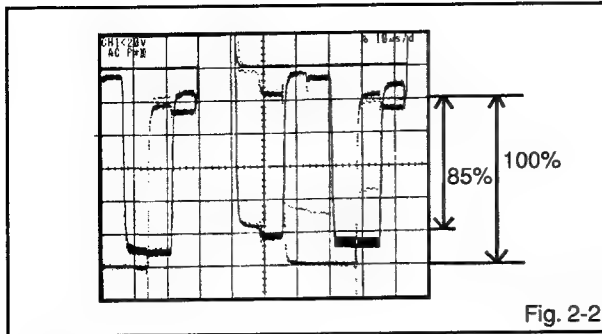


Fig. 2-2

2-13: VCO COARSE/VCO FINE

1. Place the set with Aging Test for more than 10 minutes.
2. Connect the oscillator (38.9MHz) to TP001.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (13) on the remote control to select "VCO COARSE".
4. Press the VOL. UP/DOWN button on the remote control until the "OK" appear on the screen. If the "OK" is not displayed, select the "-" side on the changed from "+" to "-".
5. Press the CH UP button once to set to "VCO FINE" mode.
6. Press the VOL. UP/DOWN button on the remote control to select the 4 step down point from the upper limit on the "OK".
(Example: In sace of the "OK" point 30~41, select 37.)

2-14: VERTICAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of Fig. 1-1 and press the channel button (09) on the remote control to select "V POSI(50)".
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.
5. Receive the monoscope pattern of NTSC.
6. Using the remote control, set the brightness and contrast to normal position.
7. Activate the adjustment mode display of Fig. 1-1 and press the channel button (10) on the remote control to select "V POSI(60)".
8. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

2-15: Confirmation of Fixed Value (step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

NO.	FUNCTION	RF	AV
02	AGC GAIN	00	00
08	BRIGHT MAX	30	30
19	BRIGHT MIN	00	00
20	TINT	32	32
21	SHARP	10	10
23	CONT MAX	50	50
24	CONT MIN	01	01
26	COLOR MAX	45	45
27	COLOR MIN	14	14
31	CVBS OUT	08	08
32	APR THR	04	04
33	BELL	10	10
34	BANDPASS	06	06
36	V POSI OSD	50	50
37	H POSI TXT	115	115
38	V POSI TXT	60	60

ELECTRICAL ADJUSTMENTS

3. PURITY AND CONVERGENCE ADJUSTMENTS

NOTE

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. (Refer to Fig. 3-1)
If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

3-2: PURITY

NOTE

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue colors.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

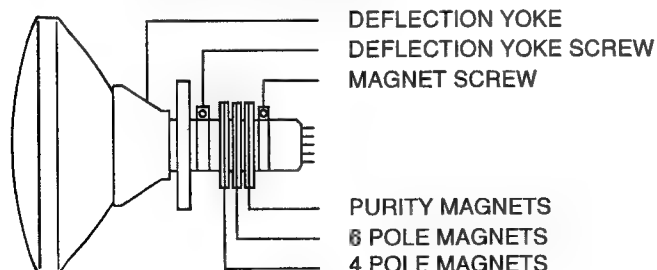


Fig. 3-1

3-3: STATIC CONVERGENCE

NOTE

Adjust after performing adjustments in section 3-2.

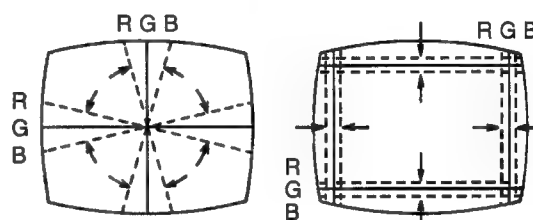
1. Receive the crosshatch pattern from color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

3-4: DYNAMIC CONVERGENCE

NOTE

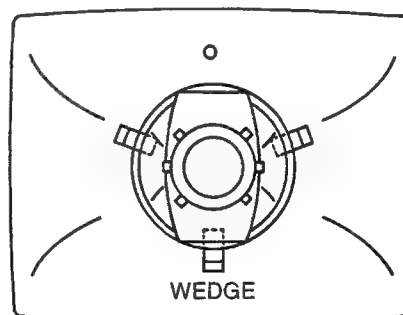
Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left. (Refer to Fig. 3-2-a)
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke. (Refer to Fig. 3-2-b)



UPWARD/DOWNWARD SLANT RIGHT/LEFT SLANT

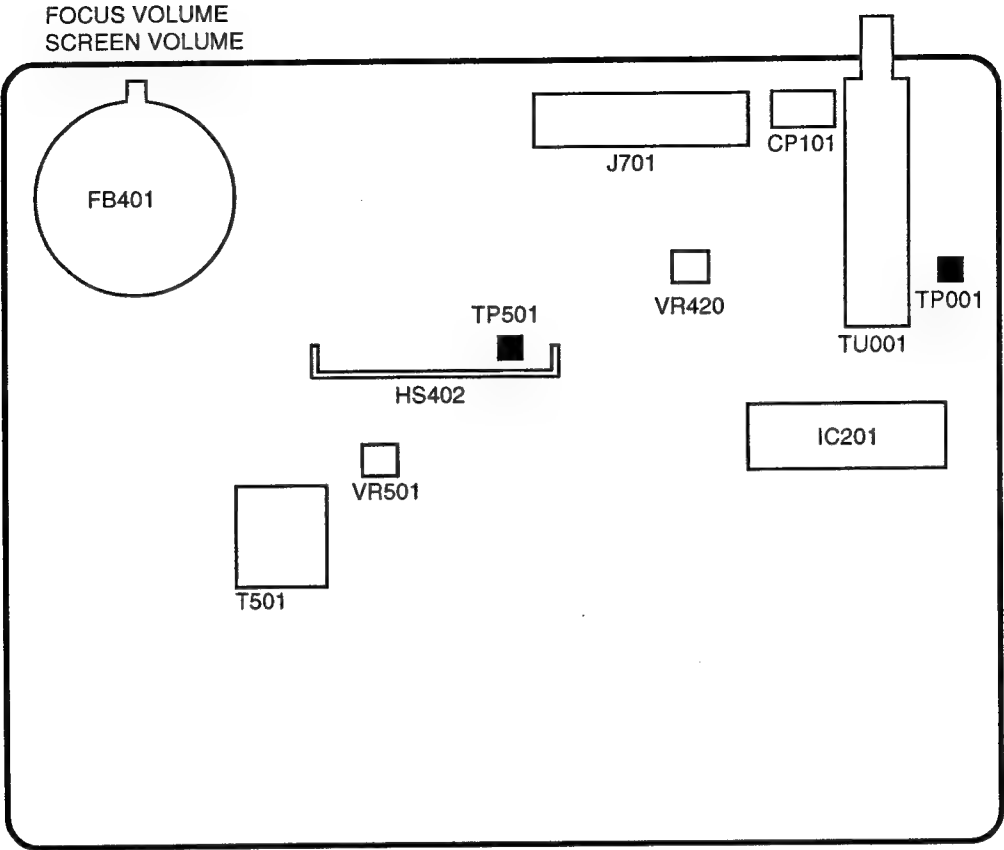
Fig. 3-2-a



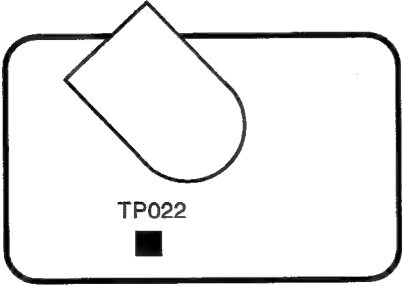
WEDGE POSITION

Fig. 3-2-b

MAJOR COMPONENTS LOCATION GUIDE

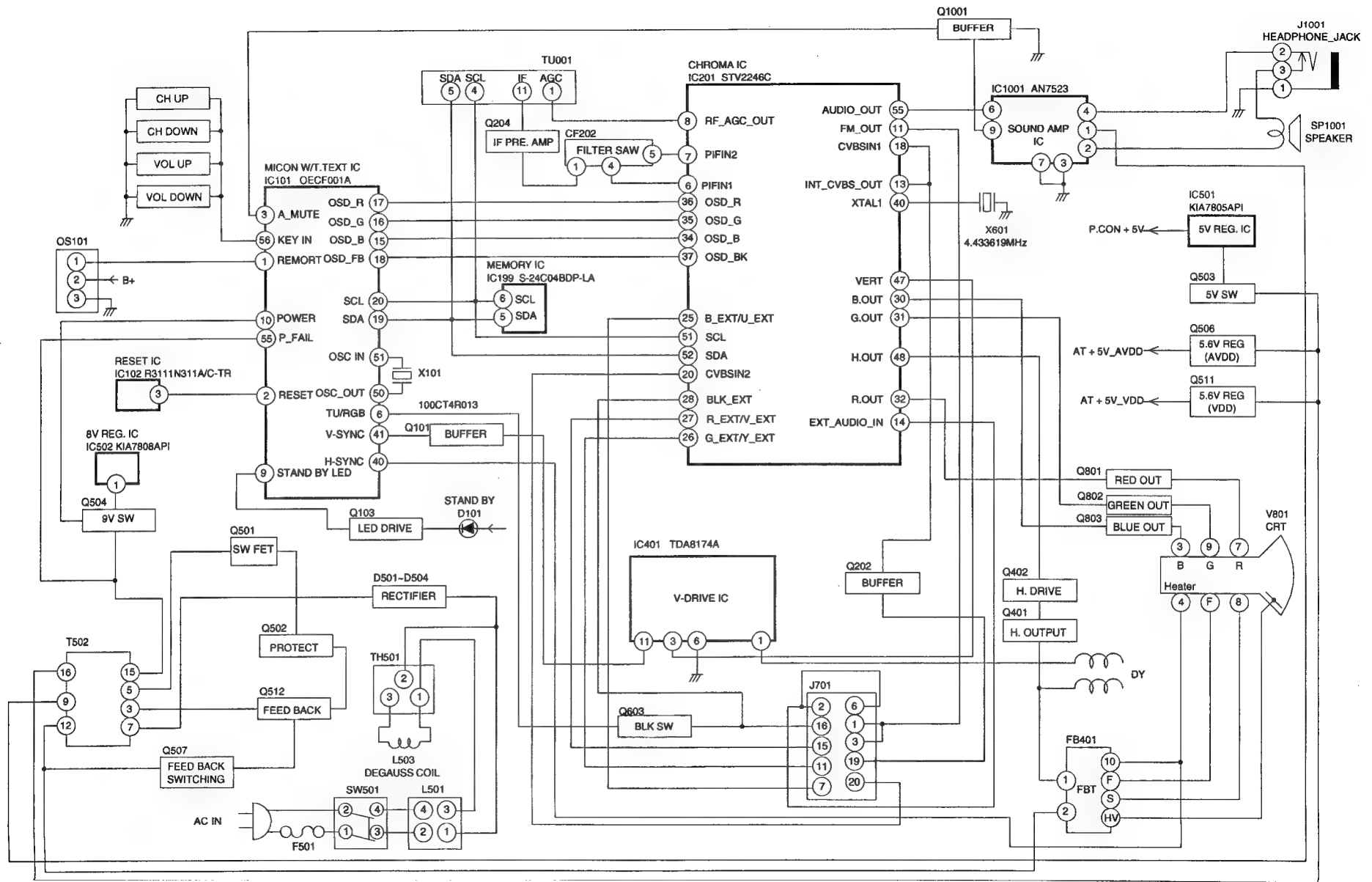


MAIN PCB



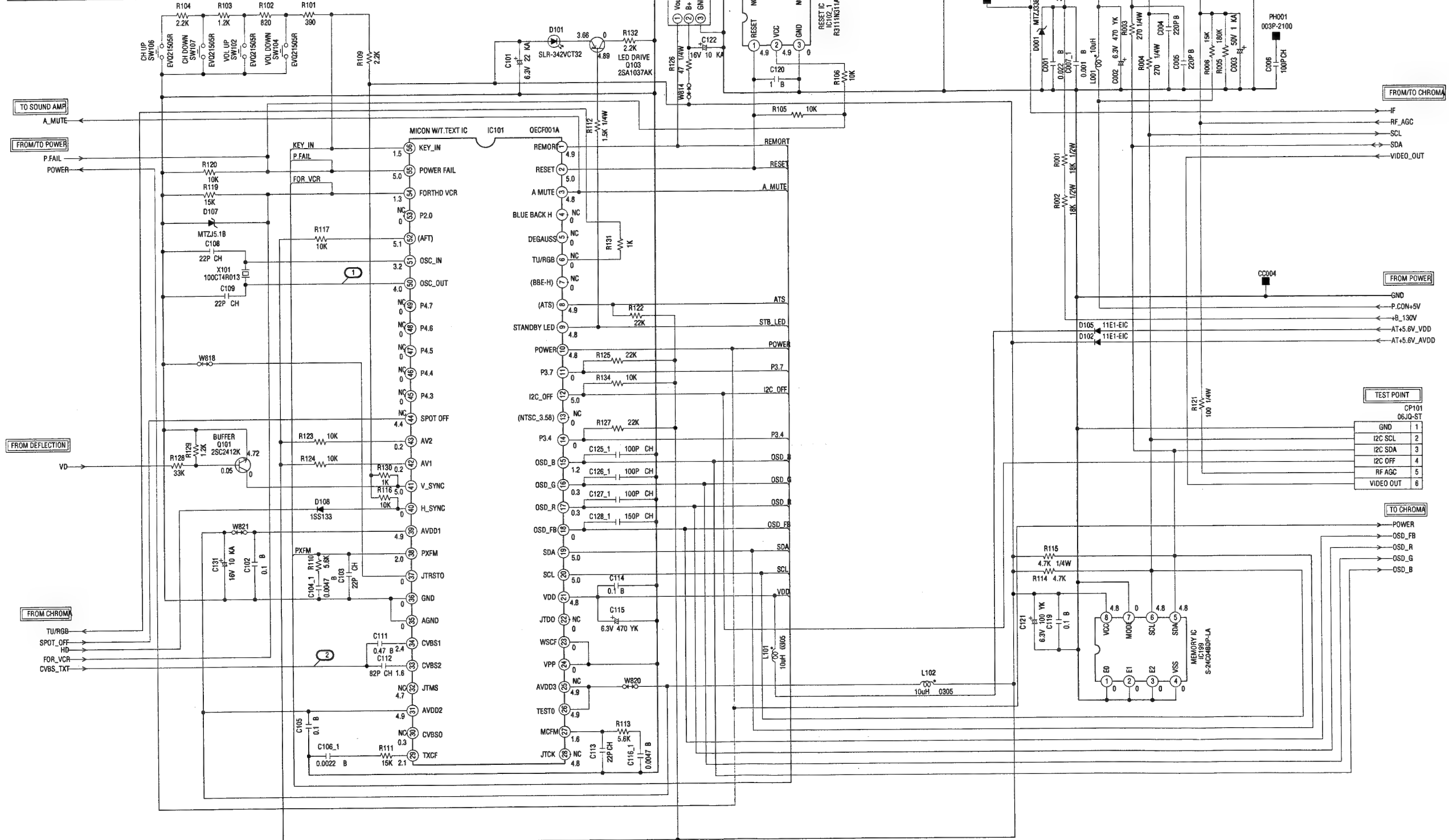
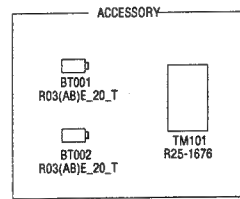
CRT PCB

BLOCK DIAGRAM



[illegible]

MICON/T.TEXT/TUNER SCHEMATIC DIAGRAM (MAIN PCB)



FROM/TO CHROMA

IF
RF AGC
SCL
SDA
VIDEO_OUT

FROM POWER

GND
P.CON+5V
+B_130V
AT+5.6V_VDD
AT+5.6V_AVDD

TEST POINT

CP101
06JQ-ST

GND	1
I2C SCL	2
I2C SDA	3
I2C OFF	4
RF AGC	5
VIDEO OUT	6

TO CHROMA

POWER
OSD_FB
OSD_R
OSD_G
OSD_B

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

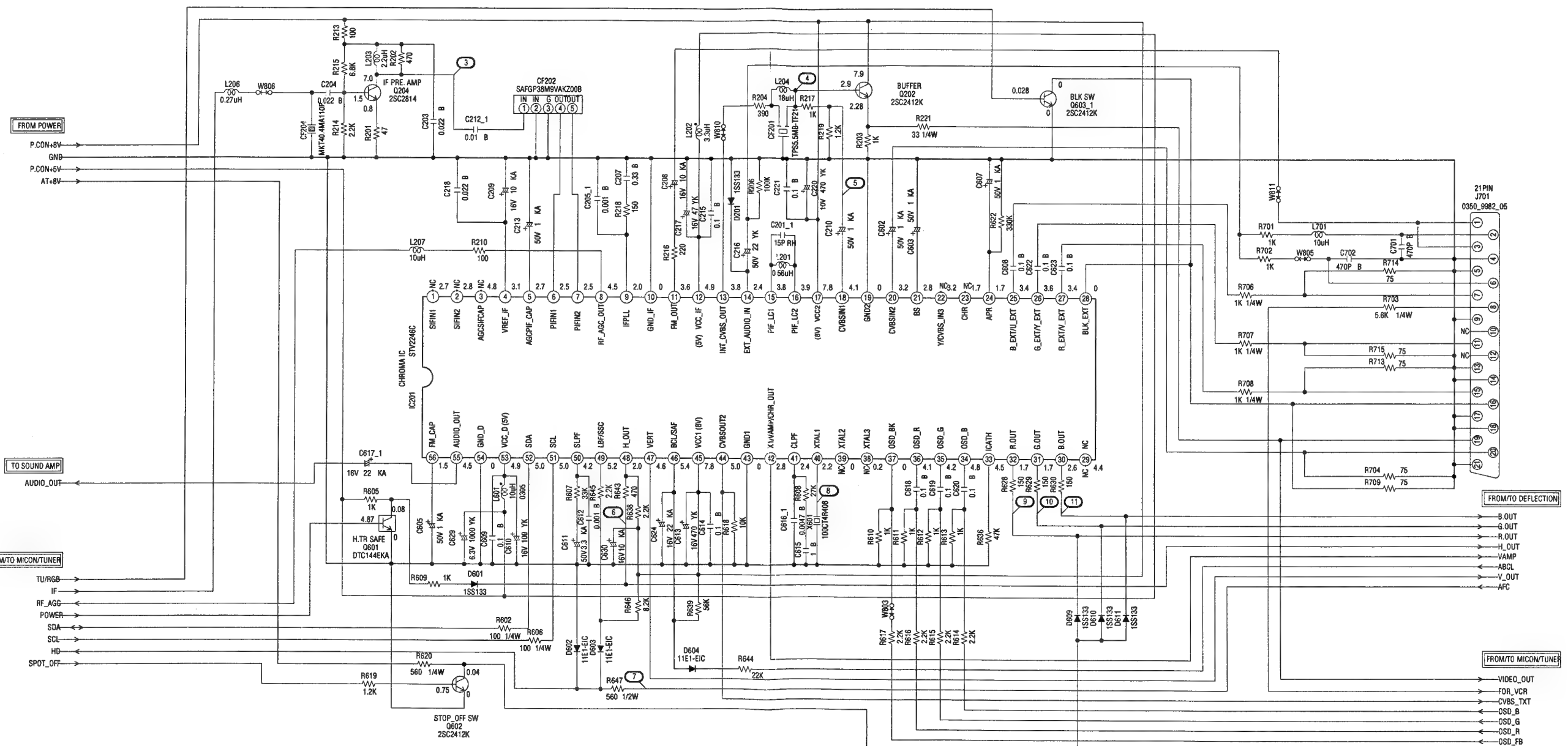
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PCB010
TMA504

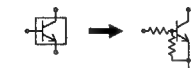
CHROMA/SIF/VIF SCHEMATIC DIAGRAM (MAIN PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

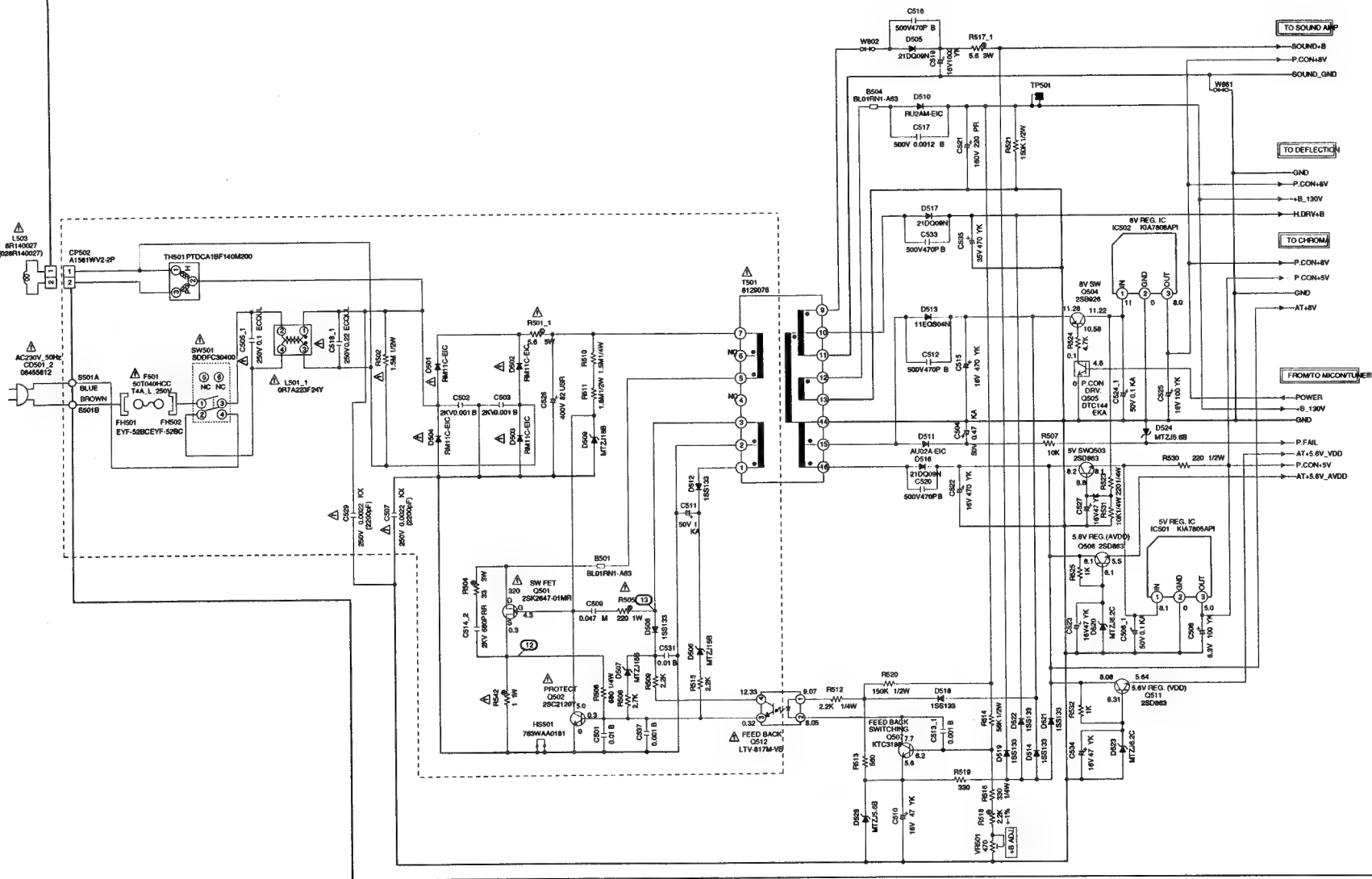
CAUTION: DIGITAL TRANSISTOR



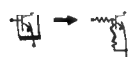
PCB010
TMA504

POWER SCHEMATIC DIAGRAM


(MAIN PCB)



CAUTION: DIGITAL TRANSISTOR



**ATTENTION: LES PIÈCES RÉPARÉES PAR UN TANT
DANGEREUSES AU POINT DE VUE SÉCURITÉ
N'UTILISEZ QUE CELLES DÉCRITES
DANS LA NOMENCLATURE DES PIÈCES**

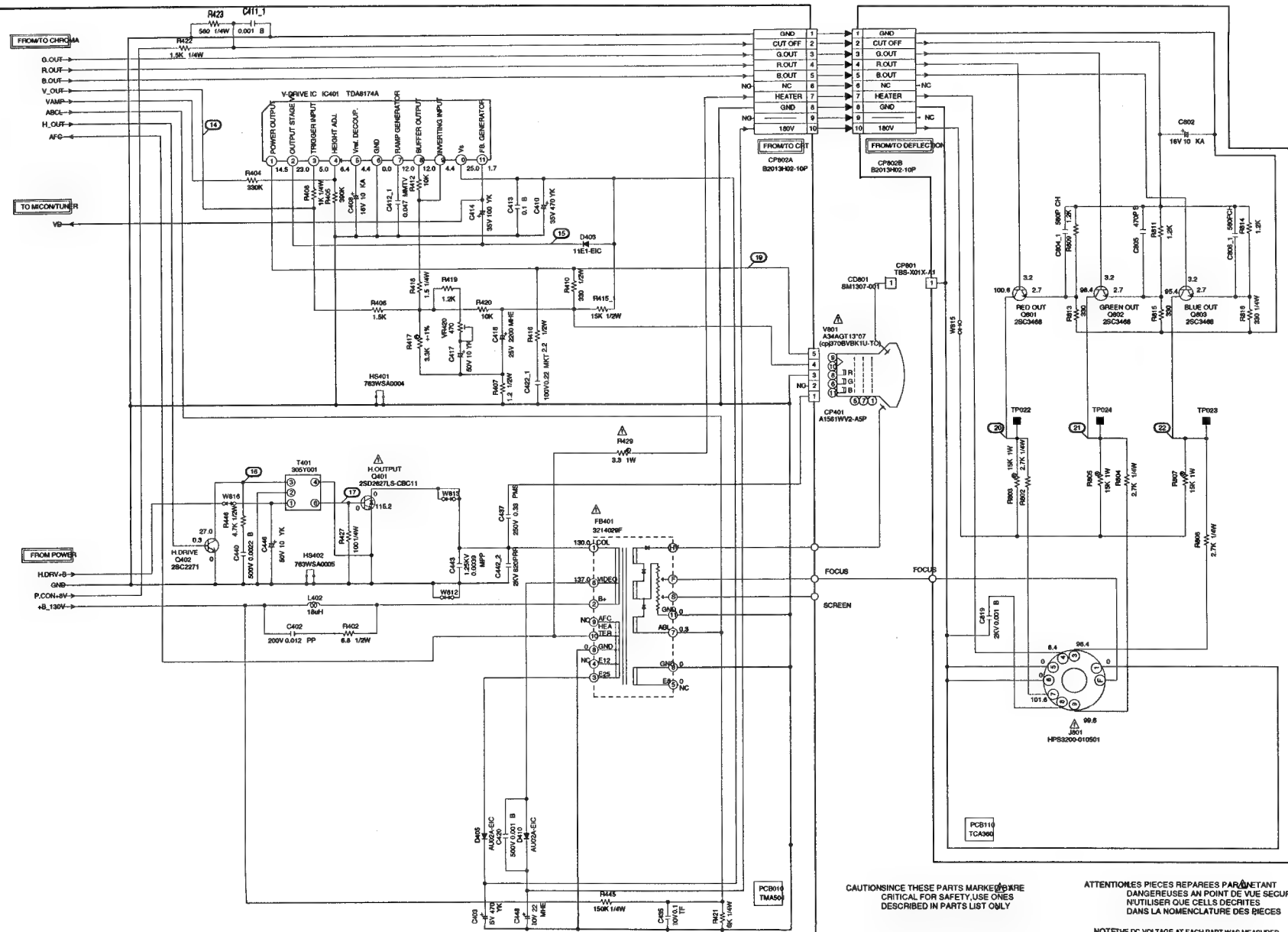
CAUTIONSSINCE THESE PARTS MARKED  ARE CRITICAL FOR SAFETY, USE ONES IDENTIFIED BY THE MANUFACTURER'S PART NUMBER.

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTETHIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

PCB010
TMA504

DEFLECTION/CRT SCHEMATIC DIAGRAM (PCB)



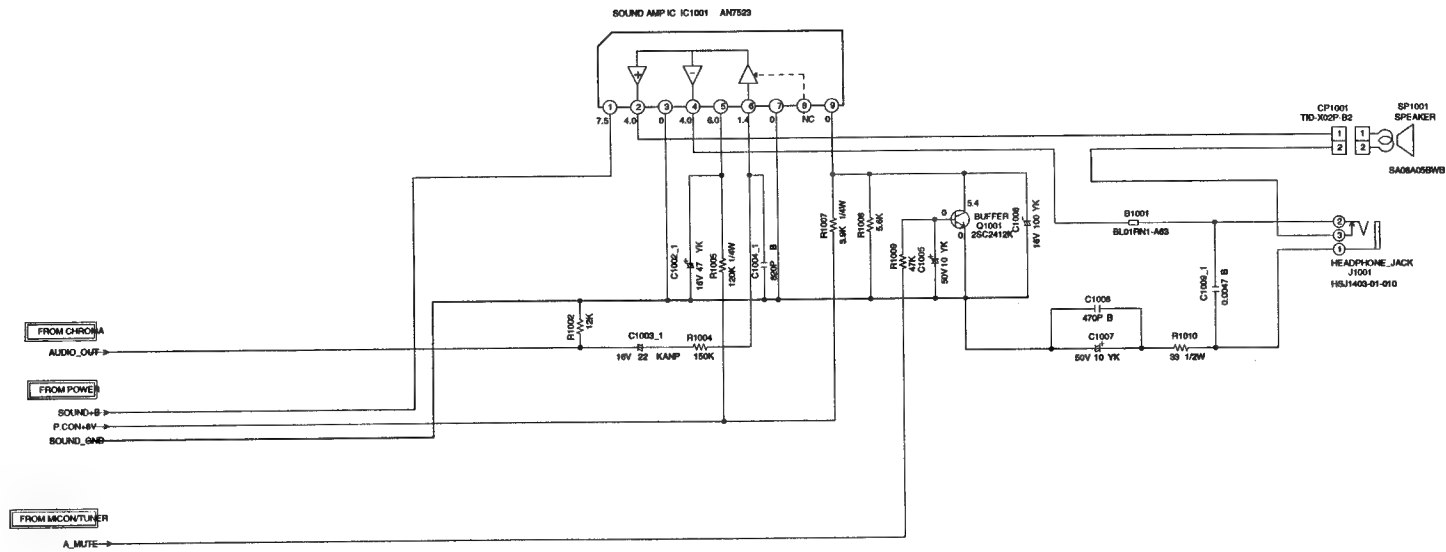
CAUTION: THESE PARTS MARKED WITH A TRIANGLE ARE CRITICAL FOR SAFETY. USE ONLY THE PARTS DESCRIBED IN PARTS LIST ONLY.

ATTENTION: LES PIÈCES REPARÉES PAR UN ÉLÉMENT DANGEREUX AU POINT DE VUE SÉCURITÉ. N'UTILISER QUE LES CELLULES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

SOUND AMP SCHEMATIC DIAGRAM (MAIN PCB)

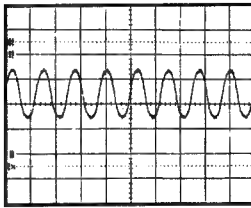


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

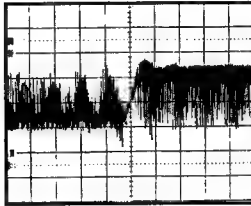
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

WAVEFORMS

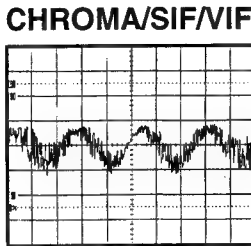
MICON/T.TEXT/TUNER



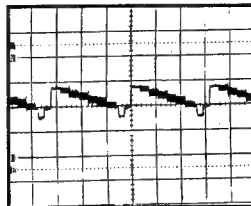
① 5V. 200ns/div



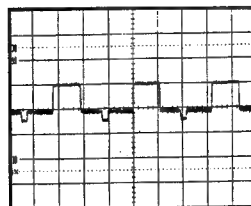
② 5V. 200ns/div



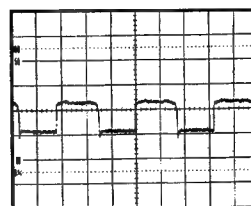
③ 10V 10ns/div



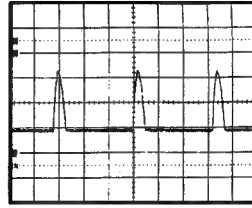
④ 10V. 20μs/div



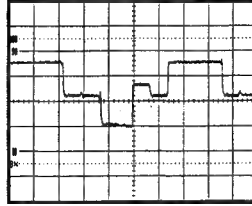
⑤ 5V. 20μs/div



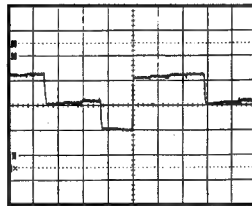
⑥ 5V. 20μs/div



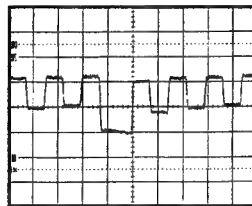
⑦ 100V 20μs/div



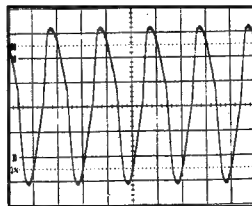
⑨ 10V 10μs/div



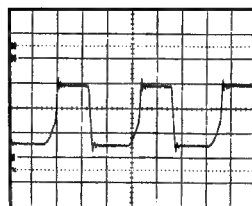
⑩ 10V 10μs/div



⑪ 10V 10μs/div



⑫ 500V 10ms/div

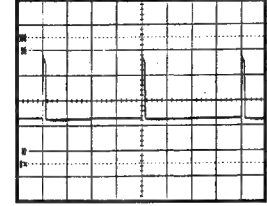


⑬ 100V 5μs/div

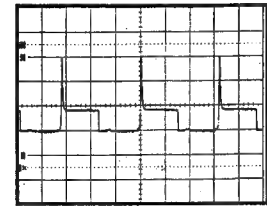
DEFLECTION/CRT



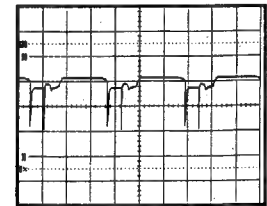
⑭ 20V 5ms/div



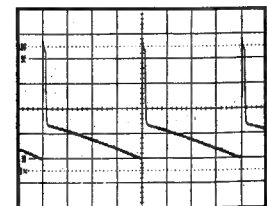
⑮ 100V 5ms/div



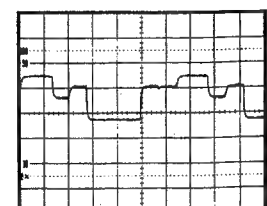
⑯ 500V 20μs/div



⑰ 50V 20μs/div



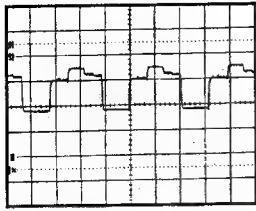
⑲ 100V 5ms/div



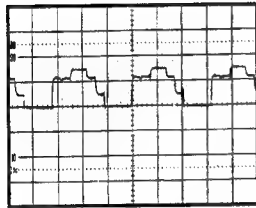
⑳ 500V 10μs/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS



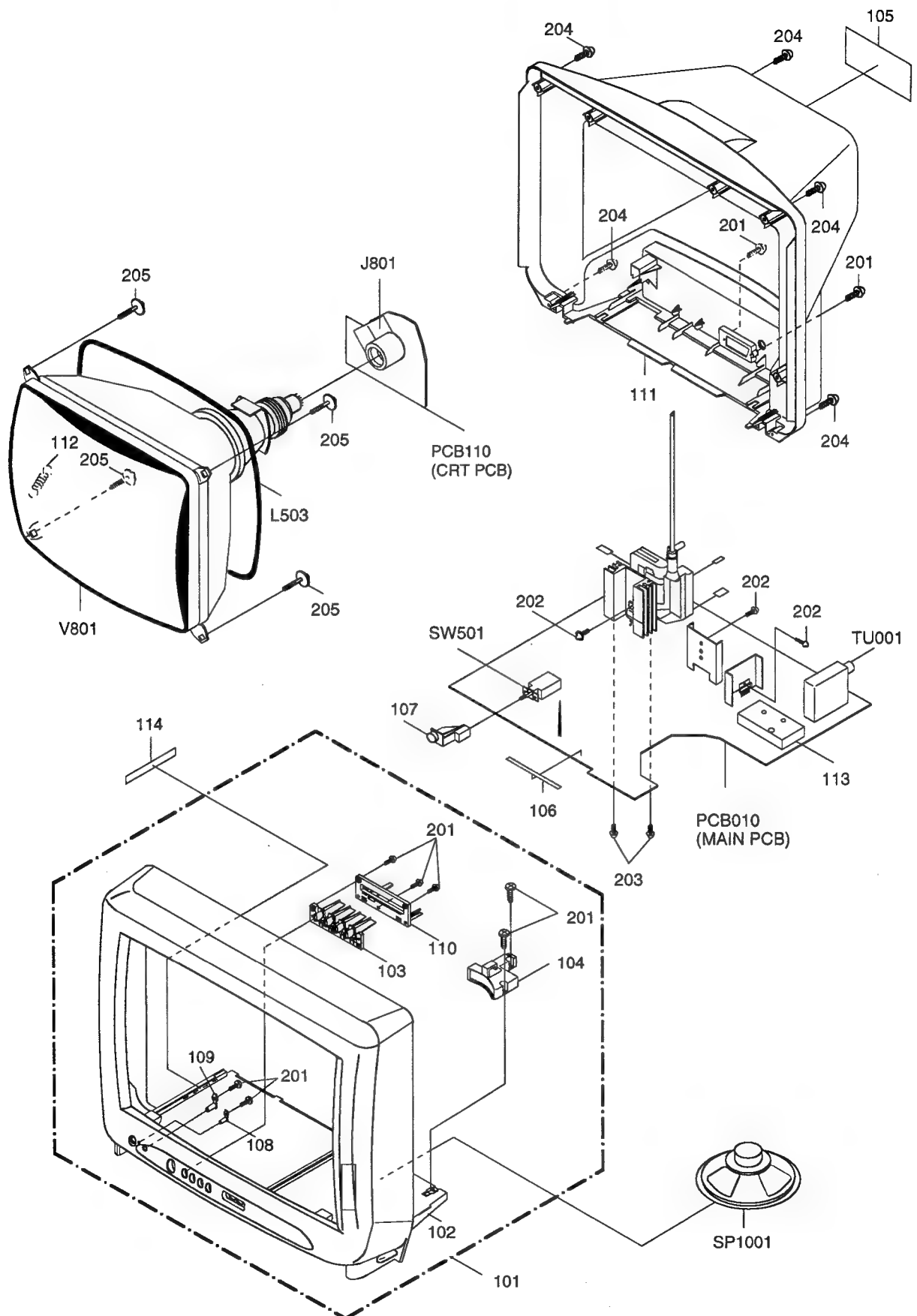
②① 500V 20 μ s/div



②② 50V 20 μ s/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

MECHANICAL EXPLODED VIEW



MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
101	A3K312M720	CABINET,FRONT ASSY		
102	701WPJB534	CABINET,FRONT		
103	735WPBA349	BUTTON,FRAME		
104	761WPA0163	HOLDER,PCB		
105	722202A572	SHEET,RATING		
106	800WQ00044	FELT SHEET		
107	735WPBA351	BUTTON,POWER		
108	713WPAA055	GLASS,LED		
109	713WPAA054	GUIDE,REMOCON		
110	735WPAA416	BUTTON,HOLDER		
111	702UPA0118	CABINET,BACK		
112	741WUA0020	SPRING,EARTH		
113	752WSA0216	SHIELD,CASE		
114	7220001017	SHEET,PTB		
201	8110630A04	SCREW,TAP TITE(P)	BRAZIER	3x10
202	8109130804	SCREW,TAP TITE(B)	WH7	3x8
203	8109630802	SCREW,TAP TITE(B)	BRAZIER	3x8
204	8117540A64	SCREW,TAPPING(B0)	TRUSS	4x16
205	8121F50B84	SCREW,TAPPING(B0)	FAI20 FLAT	5x28
---	793UCDA888	GIFT BOX		
---	A3K302N975	INSTRUCTION BOOK KIT		
---	JB5X0100	POLYBAG		
---	J3K30201	INSTRUCTION BOOK		
---	791MHA0001	LAMIFILM BAG		
---	792UHA0114	PACKAGE, TOP		
---	792UHA0115	PACKAGE,BOTTOM		

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			ICS		
R429	R655813R3J	R,FUSE 3.3 OHM 1W	IC102	IC7J0311A0	IC R3111N311A/C-TR
△ R501	R5Y2CD5R6J	R,CEMENT 5.6 OHM 5W	IC199	A3K312N015	IC S-24C04BDP-LA
△ R502	R002T2155J	RC 1.5M OHM 1/2W	IC201	I0WDE246C0	IC STV2246C
R504	R3X28B330J	R,METAL OXIDE 33 OHM 3W	IC401	I0WTD81740	IC TDA8174A
△ R505	R3X181221J	R,METAL OXIDE 220 OHM 1W	IC501	I1KA97805A	IC KIA7805API
R517	R3X28B5R6J	R,METAL OXIDE 5.6 OHM 3W	IC502	I1KA97808A	IC KIA7808API
R521	R00202154J	RC 150K OHM 1/2W	IC1001	I0FSP75230	IC AN7523
△ R542	R3X181010J	R,METAL OXIDE 1 OHM 1W	TRANSISTORS		
R803	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q101	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
R805	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q103	T6YJ1037K0	TRANSISTOR,SILICON 2SA1037AKT146R,S
R807	R3X181153J	R,METAL OXIDE 15K OHM 1W	Q202	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
CAPACITORS			Q204	T83A028140	TRANSISTOR,SILICON 2SC2814(F3,F4)-T
C216	E02L05220M	CE 22 UF 50V	△ Q401	TD30026270	TRANSISTOR SILICON 2SD2627LS-CBC11
	E02L05220M	CE 22 UF 50V	Q402	TC3T022710	TRANSISTOR,SILICON 2SC2271(D,E)-AE
C402	P3N1F2123J	CPP 0.012 UF 200V	△ Q501	T410K26470	FET 2SK2647-01MR
C418	E5EZ3222M	CE 2200 UF 25V	△ Q502	TC5T021204	TRANSISTOR,SILICON 2SC2120Y(TPE2)
C437	P4J7F3334J	CMPP 0.33 UF 250V PMS	Q503	TD3T008630	TRANSISTOR,SILICON 2SD863(E,F)-AE
C442	C0PLRR7W2K	CC 820 PF 2KV RR	Q504	TBWT009260	TRANSISTOR,SILICON 2SB926(S,T)-AA
	C03L0R7W2K	CC 820 PF 2KV R	Q505	TNYJD05001	COMPOUND TRANSISTOR DTC144EKAT146
C443	P4N8FJ392H	CMPP 0.0039UF 1.25KV	Q506	TD3T008630	TRANSISTOR,SILICON 2SD863(E,F)-AE
C448	E5EZFC220M	CE 22 UF 200V	Q507	TCATC31980	TRANSISTOR,SILICON KTC3198-AT(Y,GR)
C502	C0JBB0713K	CC 0.001 UF 2KV B	Q511	TD3T008630	TRANSISTOR,SILICON 2SD863(E,F)-AE
C503	C0JBB0713K	CC 0.001 UF 2KV B	△ Q512	0002E00610	PHOTO COUPLER LTV-817M-VB
△ C505	P2122B104M	CMP 0.1 UF 250V ECQUL	Q601	TNYJD05001	COMPOUND TRANSISTOR DTC144EKAT146
△ C507	CB3C30MH3M	CC 0.0022UF 250V	Q602	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
C514	C0PLRR7U2K	CC 680 PF 2KV RR	Q603	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
	C03L0R7U2K	CC 680 PF 2KV R	Q801	TC3T034680	TRANSISTOR,SILICON 2SC3468(D,E)-AE
△ C518	P2122B224M	CMP 0.22 UF 250V ECQUL	Q802	TC3T034680	TRANSISTOR,SILICON 2SC3468(D,E)-AE
C521	E53VFB221M	CE 220 UF 160V	Q803	TC3T034680	TRANSISTOR,SILICON 2SC3468(D,E)-AE
C526	E52D0H820M	CE 82 UF 400V	Q1001	T8YJ2412K0	TRANSISTOR SILICON 2SC2412KT146 R,S
△ C529	CB3C30MH3M	CC 0.0022UF 250V	COILS & TRANSFORMERS		
C819	C0JBB0713K	CC 0.001 UF 2KV B	L001	02167F100J	COIL 10 UH
DIODES			L101	02167F100J	COIL 10 UH
D001	D97U03301B	DIODE,ZENER MTZJ33B T-77	L102	02167F100J	COIL 10 UH
D101	0021721150	LED SLR-342VCT32	L201	0216S1R56J	COIL 0.56 UH
D102	D2WT011E10	DIODE SILICON 11E1-EIC	L202	0216733R3K	COIL 3.3 UH
D105	D2WT011E10	DIODE SILICON 11E1-EIC	L203	021LA62R2M	COIL 2.2 UH
D107	D97U05R11B	DIODE,ZENER MTZJ5.1B T-77	L204	021LA6180K	COIL 18 UH
D108	D1VT001330	DIODE,SILICON 1SS133T-77	L206	021LA6R27M	COIL 0.27 UH
D201	D1VT001330	DIODE,SILICON 1SS133T-77	L207	021LA6100J	COIL 10 UH
D403	D2WT011E10	DIODE SILICON 11E1-EIC	L402	021U6D180K	COIL 18 UH
D405	D2WTAU02A0	DIODE SILICON AU02A-EIC	△ L501	029T000094	COIL,LINE FILTER 0R7A223F24Y
D410	D2WTAU02A0	DIODE SILICON AU02A-EIC	△ L503	028R140027	COIL,DEGAUSS 8R140027
△ D501	D2WTRM11C0	DIODE SILICON RM11C-EIC	L601	02167F100J	COIL 10 UH
△ D502	D2WTRM11C0	DIODE SILICON RM11C-EIC	L701	021LA6100K	COIL 10 UH
△ D503	D2WTRM11C0	DIODE SILICON RM11C-EIC	T401	03305Y0018	TRANS,HORIZONTAL DRIVE 305Y001
△ D504	D2WTRM11C0	DIODE SILICON RM11C-EIC	△ T501	0481290766	TRANSFORMER,SWITCHING 8129076
D505	D28T21DQ9N	DIODE SCHOTTKY 21DQ09N-TA2B1	JACKS		
D506	D97U01501B	DIODE,ZENER MTZJ15B T-77	J701	063G100042	SOCKET,21PIN 0350_9982_05
D507	D97U01801B	DIODE,ZENER MTZJ18B T-77	△ J801	066X120014	SOCKET,CATHODE RAY TUBE HPS3200-010501
D508	D1VT001330	DIODE,SILICON 1SS133T-77	J1001	0602121012	JACK,RCA 3.5 HSJ1403-01-010
D509	D97U01801B	DIODE,ZENER MTZJ18B T-77	SWITCHES		
D510	D2WXRU2A00	DIODE SILICON RU2AM-EIC	SW102	0504101T34	SWITCH,TACT EVQ21505R
D511	D2WTAU02A0	DIODE SILICON AU02A-EIC	SW104	0504101T34	SWITCH,TACT EVQ21505R
D512	D1VT001330	DIODE,SILICON 1SS133T-77	SW106	0504101T34	SWITCH,TACT EVQ21505R
D513	D28TQS04N0	DIODE SCHOTTKY 11EQS04N-TA1B2	SW107	0504101T34	SWITCH,TACT EVQ21505R
D514	D1VT001330	DIODE,SILICON 1SS133T-77	△ SW501	0530205002	SWITCH PLUS SDDFC30400
D516	D28T21DQ9N	DIODE SCHOTTKY 21DQ09N-TA2B1	VARIABLE RESISTORS		
D517	D28T21DQ9N	DIODE SCHOTTKY 21DQ09N-TA2B1	VR420	V1163Q2BTC	VOLUME,SEMI FIXED EVNCRYAA03BC2
D518	D1VT001330	DIODE,SILICON 1SS133T-77	VR501	V1163Q2BTC	VOLUME,SEMI FIXED EVNCRYAA03BC2
D519	D1VT001330	DIODE,SILICON 1SS133T-77	P.C. BOARD ASSEMBLIES		
D520	D97U06R21C	DIODE,ZENER MTZJ6.2C T-77	PCB010	A3K312M010K	PCB ASSY TMA504A
D521	D1VT001330	DIODE,SILICON 1SS133T-77	PCB110	A3K302M110K	PCB ASSY TCA360A
D522	D1VT001330	DIODE,SILICON 1SS133T-77	MISCELLANEOUS		
D523	D97U06R21C	DIODE,ZENER MTZJ6.2C T-77	B501	024AT03655	CORE BEADS BL01RN1-A63T
D524	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	B504	024AT03655	CORE BEADS BL01RN1-A63T
D528	D97U05R61B	DIODE,ZENER MTZJ5.6B T-77	B1001	024AT03655	CORE BEADS BL01RN1-A63T
D601	D1VT001330	DIODE,SILICON 1SS133T-77	BT001	1412004008	BATTERY,MANGAN R03(AB)E_20_1
D602	D2WT011E10	DIODE SILICON 11E1-EIC	BT002	1412004008	BATTERY,MANGAN R03(AB)E_20_1
D603	D2WT011E10	DIODE SILICON 11E1-EIC	△ CD501	1206455812	CORD AC BUSH 6455812
D604	D2WT011E10	DIODE SILICON 11E1-EIC	CD801	1278140027	BRAIDED WIRE SM1307-001
D609	D1VT001330	DIODE,SILICON 1SS133T-77	CF201	1012T5R503	FILTER,CERAMIC TRAP TPS5.5MB-TF2
D610	D1VT001330	DIODE,SILICON 1SS133T-77	CF202	1022038R9E	FILTER,SAW SAFGP38M9VA<Z00B
D611	D1VT001330	DIODE,SILICON 1SS133T-77		1022T38R9E	FILTER,SAW SAF38.9MAK22Z
ICS			CF204	1012T04001	FILTER,CERAMIC TRAP MKT40.4MA11C-TF
IC101	ISP0D0F001A	IC OECF001A	CP101	069X160379	CONNECTOR PCB SIDE 06JQ-ST

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		
MISCELLANEOUS				
	CP401	069S450089	CONNECTOR PCB SIDE	A1561WV2-A5P
	CP502	069S420110	CONNECTOR PCB SIDE	A1561WV2-2P
	CP801	069W010030	CONNECTOR PCB SIDE	TBS-X01X-A1
	CP1001	069W120019	CONNECTOR PCB SIDE	TID-X02P-B2
	CP802A	067U010049	WIRE HOLDER	B2013H02-10P
	CP802B	067U010049	WIRE HOLDER	B2013H02-10P
	EL002	124120301A	EYE LET	XRY20X30BD
Δ	F501	080NT04003	FUSE	50T040HCC
Δ	FB401	043214029F	TRANSFORMER FLYBACK	3214029F
	FH501	06710T0006	HOLDER,FUSE	EYF-52BC
	FH502	06710T0006	HOLDER,FUSE	EYF-52BC
	OS101	077Q047001	REMOTE RECEIVER	PIC-47143SY
	PH001	069W01001A	CONNECTOR PCB SIDE	003P-2100
	S101	WHL6032038	FLAT CABLE	AWG26 10C BLACK 320MM
	SP1001	070C732003	SPEAKER	SA08A05BWB or
		070W132016	SPEAKER	NS-300RW W/WIRE
	TH501	DF20C140M0	DEGAUSS ELEMENT	PTDCA1BF140M200
	TM101	076R0DG180	TRANSMITTER	R25-1676
	TU001	0145511021	TUNER,VHF-UHF	TUWOF4EG-771F2
Δ	V801	098P140496	CRT W/DY	A34AGT13x07
	X101	100CT4R013	CRYSTAL	HC-49/U-S
	X601	100CT4R408	CRYSTAL	HC-49/U

RESISTOR

RC..... CARBON RESISTOR

CAPACITORS

CC..... CERAMIC CAPACITOR

CE..... ALUMI ELECTROLYTIC CAPACITOR

CP..... POLYESTER CAPACITOR

CPP..... POLYPROPYLENE CAPACITOR

CPL..... PLASTIC CAPACITOR

CMP..... METAL POLYESTER CAPACITOR

CMPL..... METAL PLASTIC CAPACITOR

CMPP..... METAL POLYPROPYLENE CAPACITOR

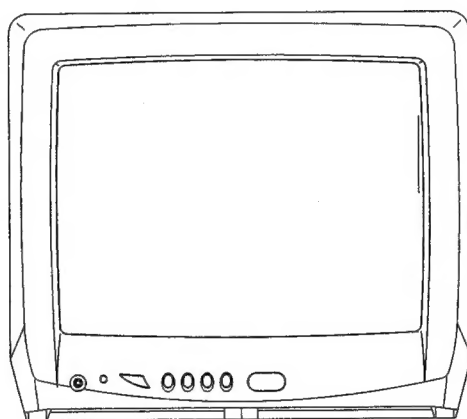
SPEC.NO.	M3K3-12M
O/R NO.	U1Z3501

ORION

TV-3787

SERVICE MANUAL

COLOR TELEVISION RECEIVER



**SUPPLEMENT
CHASSIS CODE A**

This SUPPLEMENT must be used together SERVICE MANUAL for TV-3786SI.
All other test and repair procedures are as shown in the ORIGINAL MANUAL.
Please file this SUPPLEMENT with the ORIGINAL VERSIONS.

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	TV-3786SI		TV-3787	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
BT001	1412004008	BATTERY,MANGAN R03(AB)E_20_T	1412004013	BATTERY,MANGAN R03(AB)2PXGPI
BT002	1412004008	BATTERY,MANGAN R03(AB)E_20_T	1412004013	BATTERY,MANGAN R03(AB)2PXGPI

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	TV-3786SI		TV-3787	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
101	A3K312M720	CABINET,FRONT ASS'Y	A3K313M720	CABINET,FRONT ASS'Y
102	701WPJB534	CABINET,FRONT	701WPJB598	CABINET,FRONT
103	735WPBA349	BUTTON,FRAME	735WPAA429	BUTTON,FRAME
105	722202A572	SHEET,RATING	722202A585	SHEET,RATING
107	735WPBA351	BUTTON,POWER	735WPAA424	BUTTON,POWER
108	713WPAA055	GLASS,LED	713WPAA034	GLASS,LED
109	713WPAA054	GUIDE,REMOCON	713WPAA048	GUIDE,REMOCON
110	735WPAA416	BUTTON,HOLDER	735WPAA427	BUTTON,BASE
112	741WUA0020	SPRING,EARTH	741WUA0019	SPRING,EARTH
---	793UCDA888	GIFT BOX	793UCDA924	GIFT BOX
---	A3K302N975	INSTRUCTION BOOK KIT	A3K313N975	INSTRUCTION BOOK KIT
---	J3K30201	INSTRUCTION BOOK	J3K31301	INSTRUCTION BOOK
---	792UHA0114	PACKAGE, TOP	792UHAA021	PACKAGE, TOP
---	792UHA0115	PACKAGE, BOTTOM	792UHAA022	PACKAGE, BOTTOM

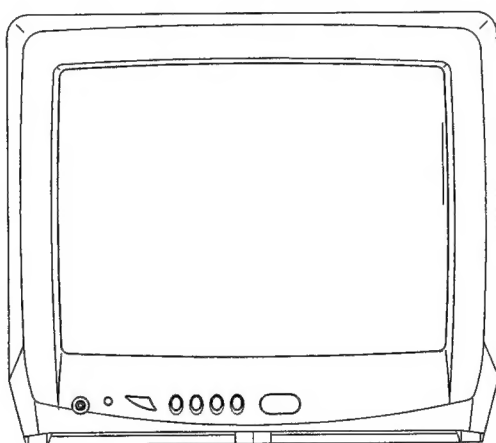
SPEC.NO.	M3K3-13M
O/R NO.	U223501

ORION

TV-3787SI

SERVICE MANUAL

COLOR TELEVISION RECEIVER



**SUPPLEMENT
CHASSIS CODE A**

This SUPPLEMENT must be used together SERVICE MANUAL for TV-3786SI.
All other test and repair procedures are as shown in the ORIGINAL MANUAL.
Please file this SUPPLEMENT with the ORIGINAL VERSIONS.

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	TV-3786SI		TV-3787SI	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
BT001	1412004008	BATTERY,MANGAN R03(AB)E_20_T	1412004013	BATTERY,MANGAN R03(AB)2PXGPI
BT002	1412004008	BATTERY,MANGAN R03(AB)E_20_T	1412004013	BATTERY,MANGAN R03(AB)2PXGPI

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	TV-3786SI		TV-3787SI	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
101	A3K312M720	CABINET,FRONT ASS'Y	A3K314M720	CABINET,FRONT ASS'Y
102	701WPJB534	CABINET,FRONT	701WPJB599	CABINET,FRONT
103	735WPBA349	BUTTON,FRAME	735WPBA345	BUTTON,FRAME
105	722202A572	SHEET,RATING	722202A586	SHEET,RATING
107	735WPBA351	BUTTON,POWER	735WPBA366	BUTTON,POWER
108	713WPAA055	GLASS,LED	713WPAA034	GLASS,LED
109	713WPAA054	GUIDE,REMOCON	713WPAA048	GUIDE,REMOCON
110	735WPAA416	BUTTON,HOLDER	735WPAA427	BUTTON,BASE
111	702UPA0118	CABINET,BACK	702UPAA026	CABINET,BACK
112	741WUA0020	SPRING,EARTH	741WUA0019	SPRING,EARTH
---	793UCDA888	GIFT BOX	793UCDA925	GIFT BOX
---	A3K302N975	INSTRUCTION BOOK KIT	A3K313N975	INSTRUCTION BOOK KIT
---	J3K30201	INSTRUCTION BOOK	J3K31301	INSTRUCTION BOOK
---	792UHA0114	PACKAGE, TOP	792UHAA021	PACKAGE, TOP
---	792UHA0115	PACKAGE, BOTTOM	792UHAA022	PACKAGE, BOTTOM

SPEC.NO.	M3K3-14M
O/R NO.	U223503